



ILLINOIS DRAFTING EDUCATORS ASSOCIATION

INTRODUCTORY DRAFTING TEST COMPUTER-AIDED DRAFTING

IDEA REGIONAL 2009

DO NOT OPEN BOOKLET UNTIL INSTRUCTED TO DO SO

GETTING STARTED:

INSTRUCTIONS:

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY.....

1. PLACE YOUR CONTESTANT NUMBER IN THE TITLE BLOCK OF THE ANSWER SHEET. DO NOT PLACE YOUR NAME OR SCHOOL NAME ON THAT SHEET.
2. ON THE FOLLOWING PAGE YOU ARE GIVEN A REDUCED-SCALE FRONT VIEW OF A "SLIDE LOCATOR," AND A NARRATIVE DESCRIPTION OF THE PART.
3. CONSTRUCT A FULL-SCALE [REAL SIZE] MULTIVIEW DRAWING, COMPLETE WITH FRONT, TOP, & RIGHT SIDE VIEW. IMPORTANT! YOU MAY NOT HAVE TO CONSTRUCT THE ENTIRE MULTIVIEW, BUT ONLY THE NECESSARY GEOMETRY TO CHECK THE REQUIRED DISTANCES. SEE #6 BELOW.
4. BEFORE ANSWERING THE QUESTIONS, YOU SHOULD SET THE CAD SYSTEM TO THREE DECIMAL PLACES WHEN CHECKING DISTANCES. NOTE: THE JUDGE'S ANSWER KEY USES A CAD SOLUTION THAT DID NOT ROUND OFF FRACTIONS, BUT RATHER USED FRACTIONAL INPUT. IF YOU USE DECIMAL INPUT, IT IS RECOMMENDED THAT YOU DO NOT ROUND OFF DECIMALS.
5. USING THE CHECKING ASSIGNMENT SHEET, VISUALIZE WHERE THE LABELED POINTS ARE IN EACH VIEW AND CHECK 2D DISTANCES WITHIN EACH VIEW. ENSURE THAT YOU ARE CHECKING IN THE CORRECT VIEW.
6. YOUR REGIONAL CONTEST DIRECTOR OR CONTEST PROCTOR WILL GIVE YOU INSTRUCTIONS ABOUT WHETHER OR NOT THE DRAWING WILL BE PLOTTED OR SAVED. EACH SITE MAY BE DIFFERENT, SO LISTEN UP, AND GOOD LUCK!

BELOW FIND A REDUCED SCALE FRONT VIEW OF THE OBJECT. BELOW THE FRONT VIEW FIND NOTES ABOUT THE SIZES REPRESENTED. READ THE DESCRIPTION CAREFULLY, AND THEN CONSTRUCT A FULL SIZE FRONT, TOP, AND RIGHT SIDE VIEW.



- A. THE SURFACE MARKED "A" IS "FRONT-MOST", AND THE OVERALL DEPTH MEASUREMENT OF THE OBJECT IS 3.0".
- B. THE TWO NORMAL SURFACES MARKED B ARE SET BACK 1" FROM SURFACE A.
- C. THE TWO NORMAL SURFACES MARKED C ARE SET BACK 2" FROM SURFACE A, THEREFORE 1" FROM THE BACK SURFACE.
- D. THE CENTRAL THROUGH HOLE HAS A DIAMETER OF $3/4$ ".
- E. THE SMALL THROUGH HOLES IN THIS PART ARE CENTERED WITH THE CORNER ARCS, AND HAVE A DIAMETER OF $3/8$ ". AT THE TOP, A SLOT IS MILLED BETWEEN THE TWO HOLES.
- F. THE CURVED SURFACES BETWEEN B & C EACH HAVE A "BULGE" OF $3/8$ ", AND ARE BOTH SPACED THE SAME WITH RESPECT TO THE CENTRAL AXIS.
- G. THERE ARE TWO 30° INCLINED SURFACES, EACH BEGINNING $3/8$ " ABOVE/BELOW CENTER.
- H. THE TWO SLOTS ARE MIRROR OPPOSITES – LOCATION DIMENSIONS AS SHOWN FOR ONE CAN BE USED TO LOCATE THE OTHER.
- J. THESE CURVED SURFACES ON EACH SIDE OF CENTER ARE ALSO MIRROR OPPOSITES. THE CENTER POINT FOR THE CURVE IS AT THE MIDPOINT OF THE OPPOSING SURFACE BULGE (SEE RADIUS DIMENSION).



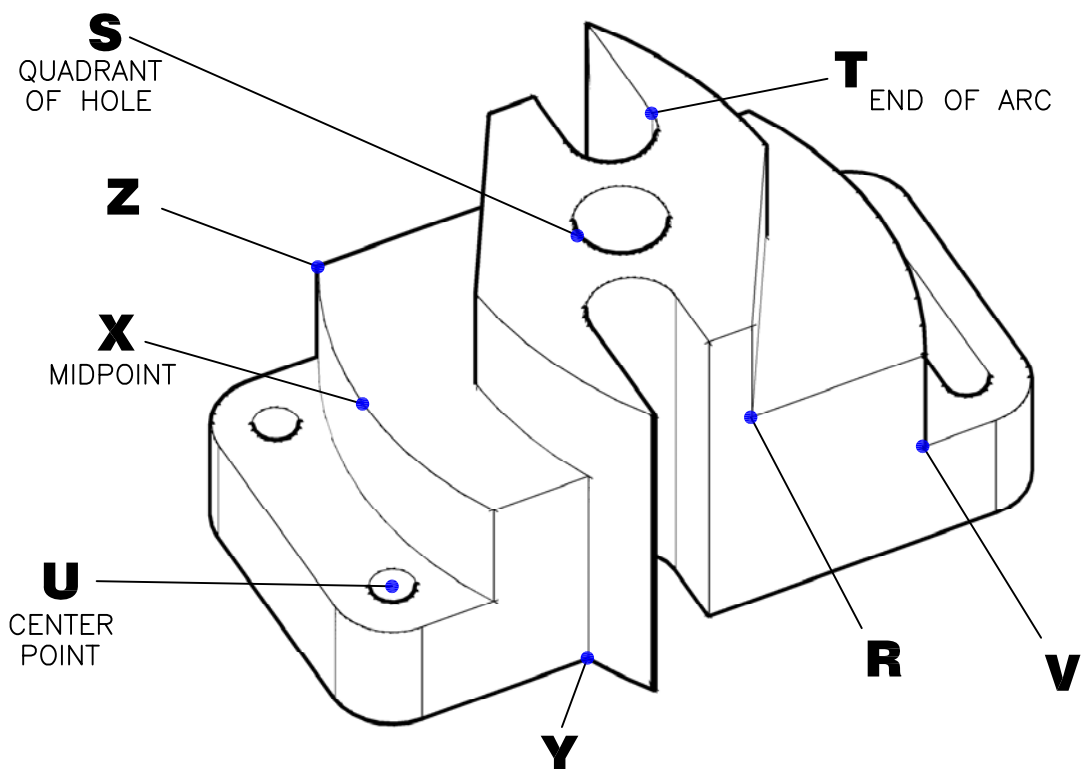
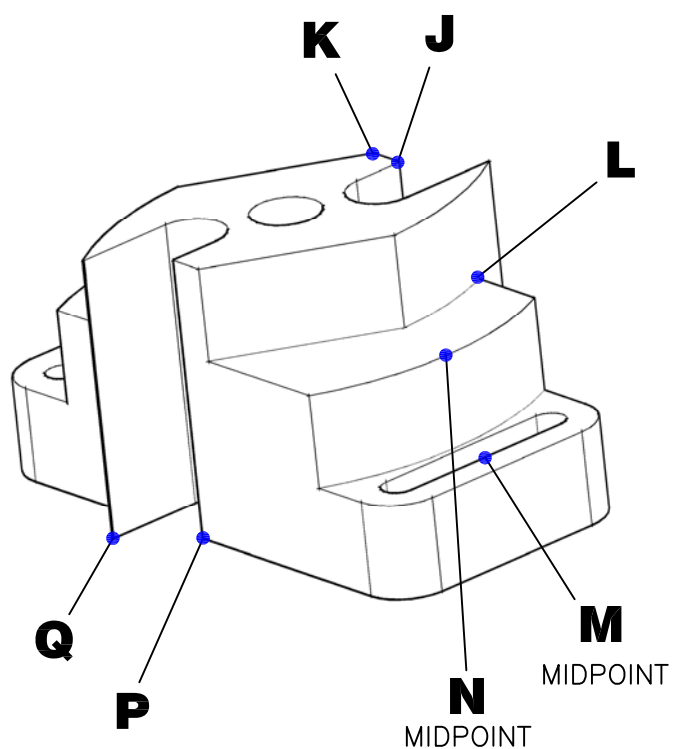
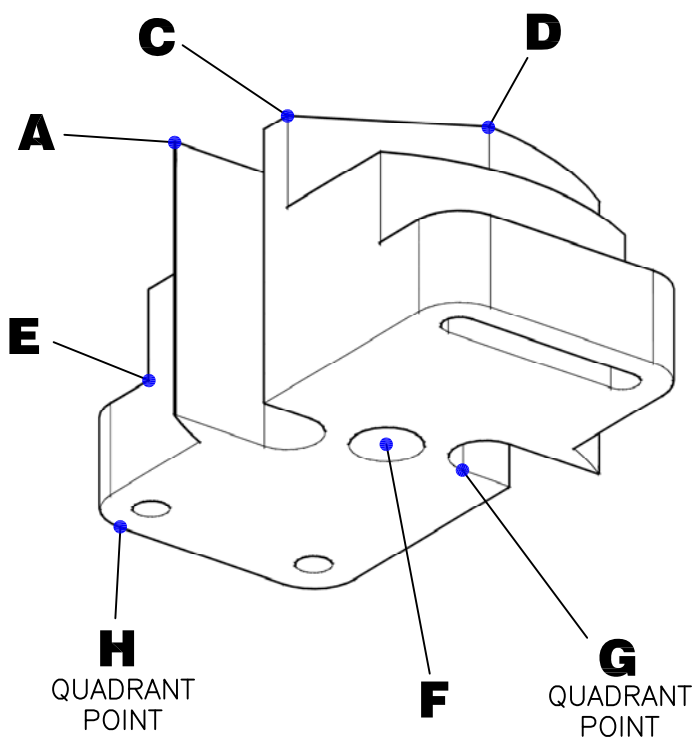
DATE: MARCH, 2009

REGISTRATION

SCALE: NONE

NUMBER:

ILLINOIS DRAFTING EDUCATORS ASSOCIATION REGIONAL DRAFTING COMPETITION



INTRODUCTORY CONTEST CHECKING GUIDE

DATE: MARCH, 2009

SCALE: NONE

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FOR THE FOLLOWING DISTANCE CHECKS, YOU WILL NOT BE CHECKING THE TRUE 3D DISTANCE BETWEEN POINTS, BUT ONLY THE 2D DISTANCE BETWEEN POINTS IN A PARTICULAR VIEW. THIS REQUIRES YOU TO VISUALIZE THE LOCATION OF THE SPECIFIED CORNERS IN A PARTICULAR VIEW.

FOR EACH ITEM, USE THE CHECK GUIDE SHEET, YOUR CAD SYSTEM (SET TO 3-PLACE DECIMAL PRECISION), AND YOUR CAD DRAWING TO DETERMINE A DISTANCE BETWEEN SPECIFIED POINTS. PLACE THE VALUE FOR EACH DISTANCE CHECK IN THE BLANK AS A NUMBER WITH THREE PLACE DECIMAL PRECISION. (i.e. 4.378)

**PLEASE PLACE YOUR CONTESTANT
NUMBER IN THE TITLE BLOCK**

PLACE ANSWER HERE



FRONT VIEW DISTANCE CHECKS

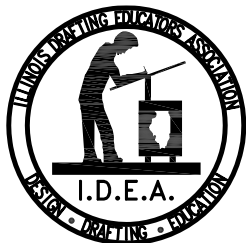
- | | |
|------------|-------------------|
| 1. D TO E | MY DISTANCE _____ |
| 2. A TO S | MY DISTANCE _____ |
| 3. H TO C | MY DISTANCE _____ |
| 4. F TO U | MY DISTANCE _____ |
| 5. X TO P | MY DISTANCE _____ |
| 6. L TO R | MY DISTANCE _____ |
| 7. K TO V | MY DISTANCE _____ |
| 8. Z TO Q | MY DISTANCE _____ |
| 9. N TO J | MY DISTANCE _____ |
| 10. T TO Y | MY DISTANCE _____ |

RIGHT SIDE VIEW DISTANCE CHECKS

- | | |
|------------|-------------------|
| 11. Z TO Q | MY DISTANCE _____ |
| 12. D TO E | MY DISTANCE _____ |
| 13. R TO L | MY DISTANCE _____ |
| 14. F TO V | MY DISTANCE _____ |
| 15. M TO C | MY DISTANCE _____ |

TOP VIEW DISTANCE CHECKS

- | | |
|------------|-------------------|
| 16. X TO R | MY DISTANCE _____ |
| 17. S TO H | MY DISTANCE _____ |
| 18. A TO Z | MY DISTANCE _____ |
| 19. P TO M | MY DISTANCE _____ |
| 20. K TO E | MY DISTANCE _____ |



INTRODUCTORY CAD ANSWER SHEET

DATE: MARCH, 2009

REGISTRATION

SCALE: NONE

NUMBER: _____

**ILLINOIS DRAFTING EDUCATORS ASSOCIATION
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NOTE TO JUDGES:

UNLESS ALL CONTESTANT SCORES ARE 'PERFECT', TIE-BREAKING CAN BE ACCOMPLISHED IN DIFFERENT WAYS. IF POSSIBLE, SEE IF THE AMOUNT OF ERROR REVEALS A DIFFERENCE BETWEEN COMPETITORS.

FOR THE CAD CONTEST, THE DISTANCE CHECKING COUNTS 50% - 75%

FOR THE BOARD DRAFTING, THE DISTANCE CHECKING COUNTS 20% SEE SCORE SHEETS FOR MORE DETAILS.

FRONT VIEW DISTANCE CHECKS

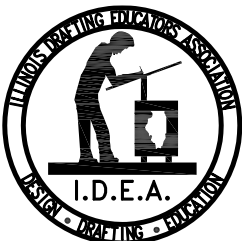
1. D TO E	MY DISTANCE _3.671 [3-11/16]_
2. A TO S	MY DISTANCE _2.069 [2-1/16]_
3. H TO C	MY DISTANCE _3.412 [3-7/16]_
4. F TO U	MY DISTANCE _2.693 [2-11/16]_
5. X TO P	MY DISTANCE _2.703 [2-11/16]_
6. L TO R	MY DISTANCE _3.075 [3-1/16]_
7. K TO V	MY DISTANCE _3.750 [3-3/4]_
8. Z TO Q	MY DISTANCE _3.710 [3-11/16]_
9. N TO J	MY DISTANCE _2.703 [2-11/16]_
10. T TO Y	MY DISTANCE _3.030 [3]_

RIGHT SIDE VIEW DISTANCE CHECKS

11. Z TO Q	MY DISTANCE _2.295 [2-5/16]_
12. D TO E	MY DISTANCE _3.810 [3-13/16]_
13. R TO L	MY DISTANCE _0.675 [11/16]_
14. F TO V	MY DISTANCE _2.125 [2-1/8]_
15. M TO C	MY DISTANCE _3.057 [3-1/16]_

TOP VIEW DISTANCE CHECKS

16. X TO R	MY DISTANCE _1.500 [1-1/2]_
17. S TO H	MY DISTANCE _3.162 [3-3/16]_
18. A TO Z	MY DISTANCE _3.674 [3-11/16]_
19. P TO M	MY DISTANCE _1.803 [1-13/16]_
20. K TO E	MY DISTANCE _3.606 [3-5/8]_



INTRO CAD/BOARD DISTANCE CHECK ANSWER KEY

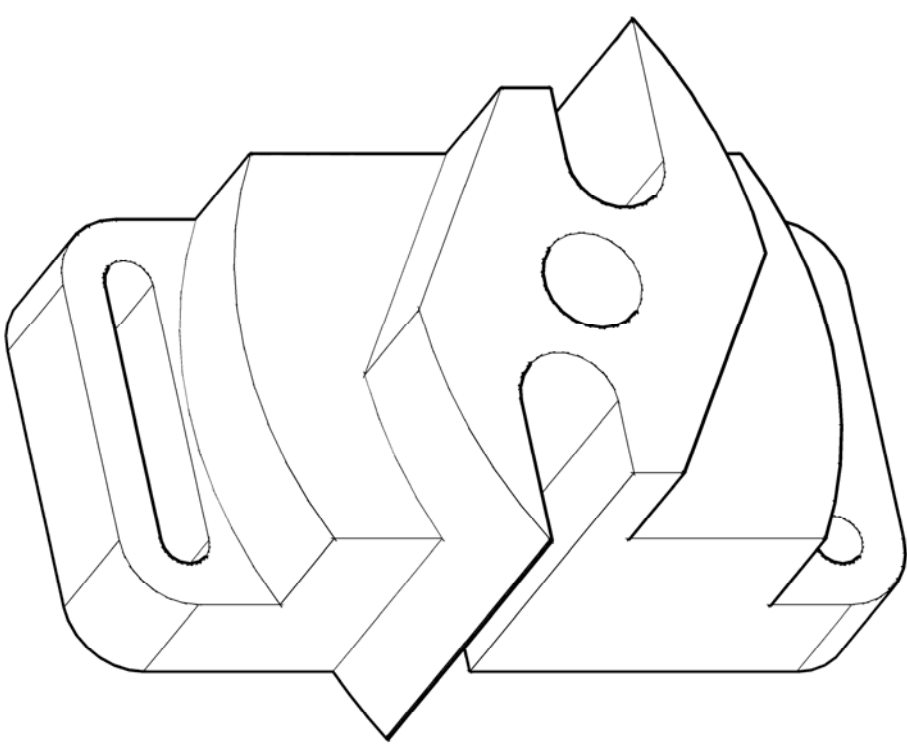
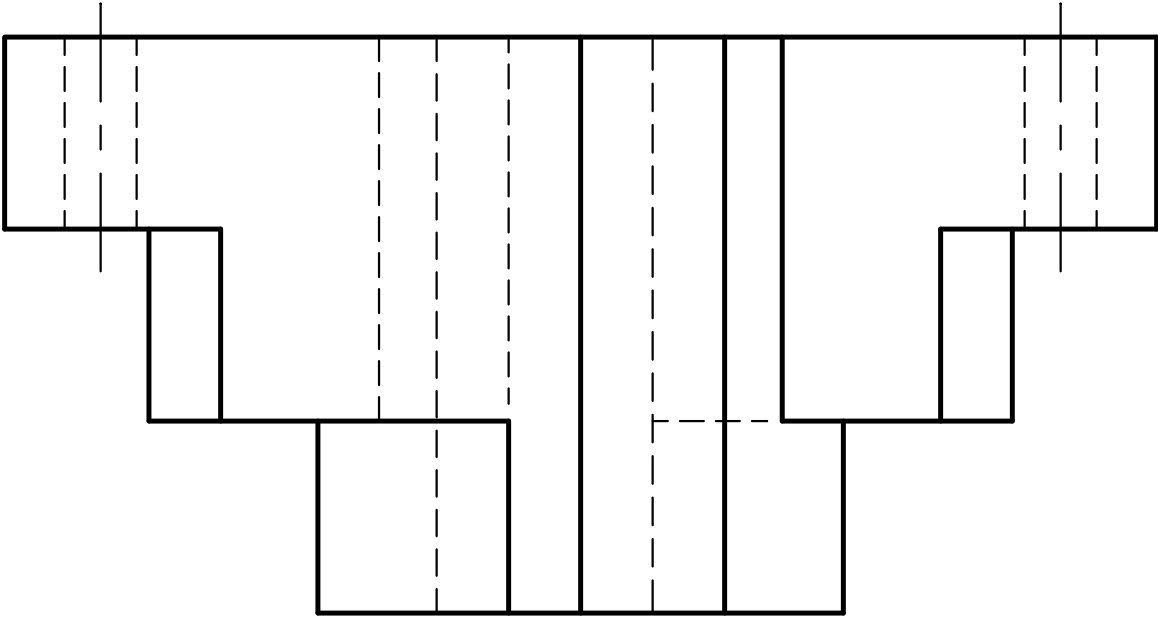
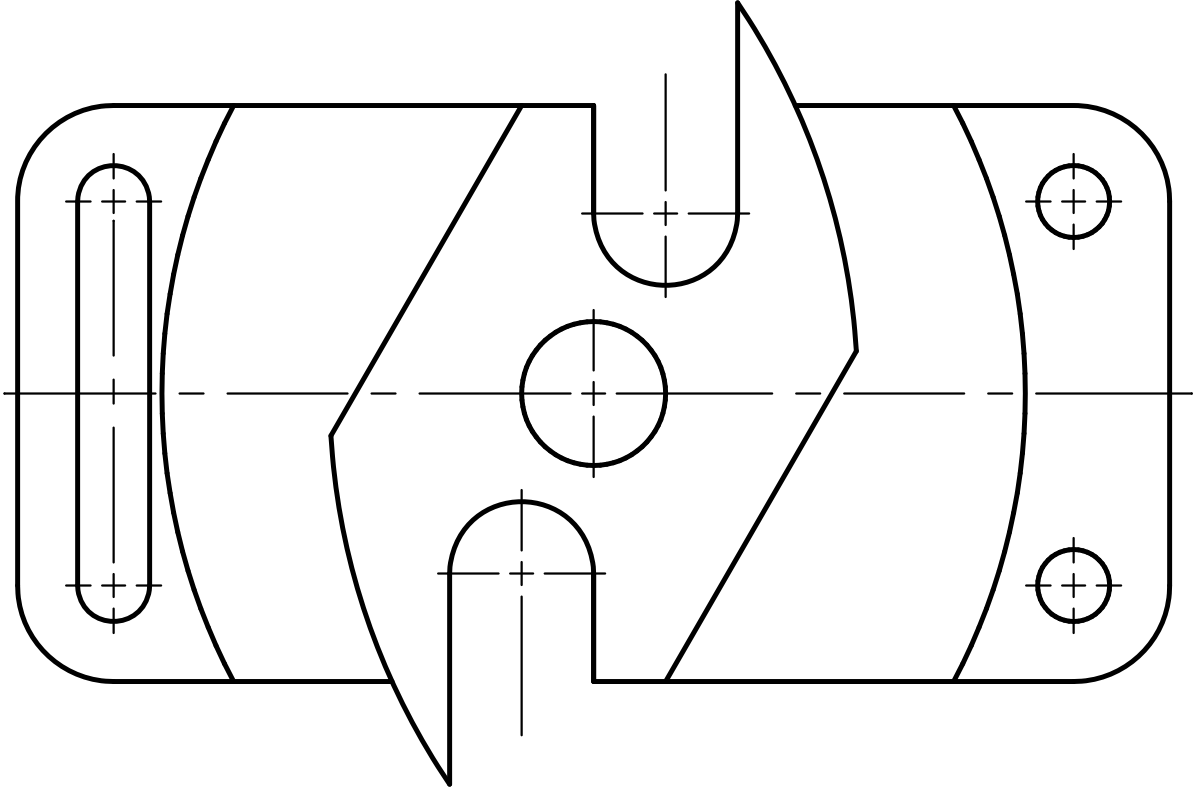
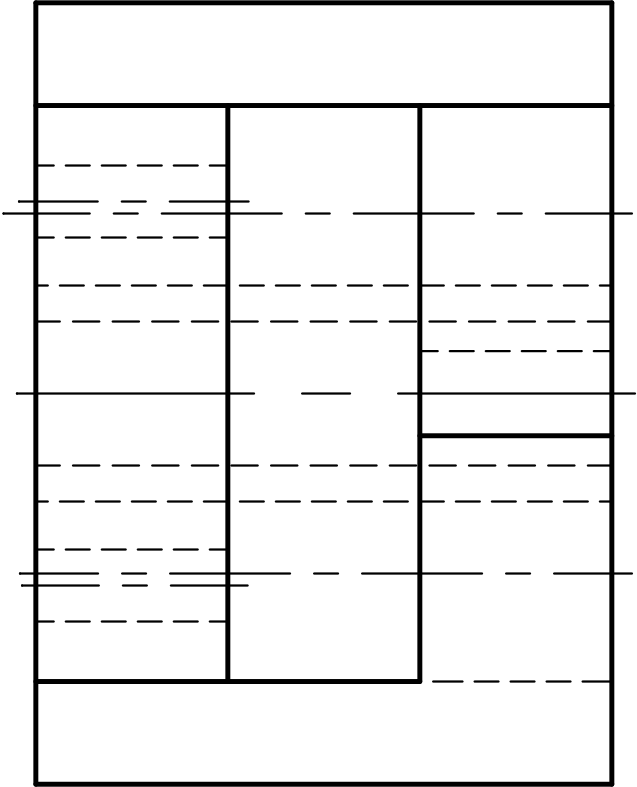
DATE: MARCH, 2009

REGISTRATION

SCALE: NONE

NUMBER:

ILLINOIS DRAFTING EDUCATORS ASSOCIATION
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INTRODUCTORY BOARD SOLUTION

DATE: MARCH, 2009	REGISTRATION	
SCALE: 1:1		NUMBER:

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